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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,198	03/19/2004	Stuart B. Saunders	SAMS-005/00US	6517
22903	7590	06/29/2006	EXAMINER	
COOLEY GODWARD LLP ATTN: PATENT GROUP THE BOWEN BUILDING 875 15TH STREET, N.W. SUITE 800 WASHINGTON, DC 20005-2221			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/804,198	SAUNDERS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Qutub Ghulamali	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-20 is/are rejected.
- 7) ☒ Claim(s) 9-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-6, 12-13 and 17 are rejected under 35 U.S.C. 102(a) as being anticipated by Ahn et al (US 6,567,648).

Regarding claim 1, Ahn discloses an apparatus comprising:

a transmitter configured to send a transmitter signal associated with a frequency;

a receiver associated with the frequency (abstract; col. 2 lines 50-67);

an antenna coupled to the transmitter and the receiver (col. 2, lines 50-67; col. 3, lines 15-25); and

a signal cancellation circuit coupled to the transmitter, the receiver and the antenna, the signal cancellation circuit configured to phase shift a first portion of the transmitter signal to produce a phase-shifted signal, the signal cancellation circuit configured to combine the phase-shifted signal with a second portion of the transmitter signal to produce a combined signal, the second portion of the transmitter signal being associated with a reflection of a third portion of the transmitter signal from the antenna, the first portion,

Art Unit: 2611

the second portion and the third portion of the transmitter signal being different from each other (col. 4, lines 36-60)

As per claims 2 and 4, Ahn discloses signal cancellation circuit includes a first coupler coupled to the transmitter and the antenna, the first coupler configured to receive the first portion of the transmitter signal (col. 6, lines 35-45); a phase shifter coupled to the first coupler, the phase shifter configured to modify the phase of the transmitter signal to produce a modified signal (col. 6, lines 45-58), and a second coupler coupled to the phase shifter and the antenna, the second coupler configured to combine the modified signal and the second portion of the transmitter signal to produce the combined signal, the second coupler configured to send the combined signal to the receiver and coupled to the antenna (col. 6, lines 53-60; col. 7, lines 30-48).

Regarding claims 3 and 13, Ahn discloses a magnitude of the first portion of the transmitter signal is substantially equal to a magnitude of the second portion of the transmitter signal (col. 15, lines 35-43).

As per claim 5, Ahn discloses a frequency source coupled to the transmitter and the receiver, the frequency source configured to send a carrier signal having the frequency to the transmitter and the receiver (col. 2, lines 62-67).

As to claim 6, Ahn discloses a first coupler coupled to the transmitter and an antenna, and a second coupler coupled to the antenna (col. 6, lines 40-45); the apparatus further comprising:

a circulator coupled to the first coupler, the second coupler, and the antenna, the circulator configured to forward the third portion of the transmitter signal from the first coupler to the antenna, the circulator configured to forward the second portion of the transmitter signal from the antenna to the second coupler (col. 6, lines 16-22, 31-67).

Regarding claim 12, Ahn discloses an apparatus comprising: a first coupler configured to receive a first portion of a transmitter signal, the transmitter signal being associated with a frequency (col. 6, lines 31-45);

a circuit coupled to the first coupler, the circuit configured to modify a phase of the transmitter signal to produce a modified (phase delay) signal (col. 6, lines 44-52); and a second coupler coupled to the circuit, the second coupler configured to combine the modified signal and a second portion of the transmitter signal to produce a combined signal, the second portion of the transmitter signal being associated with a reflection of the transmitter signal from an antenna, the second coupler configured to send the combined signal to a receiver associated with the frequency and coupled to the antenna (col. 6, lines 45-58; col. 7, lines 30-49; col. 9, lines 17-52).

As per claim 17, Ahn discloses a low-noise amplifier (LNA) configured to couple the second coupler to the receiver, the LNA configured to amplify the combined signal (fig. 4, elements 23 and 18; col. 3, lines 30-50).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2611

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Schirtzer (US 6,686,830).

Regarding claim 7, Schirtzer discloses a method comprising:  
phase shifting a first portion of a transmitter signal to produce a phase-shifted signal, the transmitter signal being associated with a frequency (col. 6, lines 15-22); and  
combining the phase-shifted signal with a second portion of the transmitter signal to produce a reduced signal, the second portion of the transmitter signal being associated with a reflection of the transmitter signal from an antenna, the antenna being coupled to a homodyne transceiver (col. 1, lines 50-67; col. 3, lines 44-55; col. 6, lines 14-41).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2611

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schirtzer (US 6,686,830) in view of Ahn et al (US 6,567,648).

Regarding claim 8, Schirtzer discloses all limitations of the claim above except does not explicitly disclose modifying, before the combining an amplitude of the first portion of the transmitter signal such that the amplitude of the first portion of the transmitter signal is substantially equal to an amplitude of the second portion of the transmitter signal. Ahn in a similar field of endeavor discloses the amplitude of the first portion of the transmitter signal is substantially equal to an amplitude of the second portion of the transmitter signal (col. 4, lines 36-60).

7. Claims 14-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahn et al (US 6,567,648) in view of Schirtzer (US 6,686,830).

Regarding claim 14, Ahn discloses all limitations of the claim except circuit includes a variable attenuator, a phase shifter, a detector and a controller. Schirtzer in a similar field of endeavor discloses circuit includes a variable attenuator, a phase shifter, a detector and a controller, the variable attenuator being coupled to the first coupler and the phase shifter, the controller being coupled to the variable attenuator, the phase shifter and the detector, the second coupler being coupled to the phase shifter and the detector (col. 4, lines 23-67; col. 6, lines 15-46). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to

use a variable attenuator, a phase shifter, a detector and a controller as taught by Schirtzer in the apparatus of Ahn because it can mitigate data error and allow operation at low power levels.

Regarding claims 15 and 16, Ahn discloses all limitations of the claim except does not explicitly disclose a memory coupled to the circuit and configured to store calibration data, the circuit including a detector and a controller, the controller being coupled to the first coupler, the second coupler and the detector, the detector being configurable based on calibration data, the controller configured to modify the phase of the transmitter signal based on the calibration data. Schirtzer in a similar field of endeavor discloses disclose a memory coupled to the circuit and configured to store calibration data, the circuit including a detector and a controller, the controller being coupled to the first coupler, the second coupler and the detector, the detector being configurable based on calibration data, the controller configured to modify the phase of the transmitter signal based on the calibration data (col. 4, lines 40-58; col. 6, lines 32-46). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a memory coupled to the circuit and configured to store calibration data, the circuit including a detector and a controller, the controller being coupled to the first coupler, the second coupler and the detector, the detector being configurable based on calibration data, the controller configured to modify the phase of the transmitter signal based on the calibration data as taught by Schirtzer in the apparatus of Ahn because it can improve reception and mitigate noise in received data.



As per claims 18 and 19, Ahn Ahn discloses all limitations of the claim except does not explicitly disclose a homodyne transceiver including the receiver and a transmitter. Schirtzer in a similar field of endeavor discloses the homodyne transceiver including the receiver and a transmitter the homodyne transceiver being associated with the frequency, the homodyne transceiver being coupled to the antenna via the first coupler (col. 6, lines 15-30). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the homodyne transceiver including receiver and a transmitter the homodyne transceiver being associated with the frequency, the homodyne transceiver being coupled to the antenna via the first coupler as taught by Schirtzer in the apparatus of Ahn because it can improve detection and provide better demodulation of data.

Regarding claim 20, Ahn discloses all limitations of the claim including an antenna a receiver and a transmitter, however, fails to disclose a homodyne transceiver including the homodyne transceiver being associated with the frequency, the transmitter of the homodyne transceiver being coupled to the first coupler, the receiver of the homodyne transceiver being coupled to the second coupler; and a circulator, the circulator being coupled to the first coupler, the second couple and the antenna. Schirtzer in a similar field of endeavor discloses homodyne transceiver being associated with the frequency, the transmitter of the homodyne transceiver being coupled to the first coupler, the receiver of the homodyne transceiver being coupled to the second coupler; and a circulator, the circulator being coupled to the first coupler, the second couple and the antenna (col. 1, lines 50-67; col. 4, lines 24-46;

Art Unit: 2611

col. 6, lines 15-46). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a homodyne transceiver associated with frequency as taught by Schirtzer in the apparatus of Ahn because it can provide detection of backscatter signal different from that of transmitter to improve reception and mitigate noise in received data.

### ***Allowable Subject Matter***

8. Claims 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

US Patent (2004/0090309) to Taki et al.

US Patent (6,531,957) to Nysen.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.  
June 23, 2006.

  
JEAN B. CORRIELUS  
PRIMARY EXAMINER

6.26.06